CLAIMS:

1. A detector for an imaging device, comprising

a) a substrate (1);

b) an array (2) of sensor elements (3), which is formed on one side of the substrate (1);

c) at least one integrated electronic module (4) for processing sensor signals, the module (4) being mounted at one edge (5) of the substrate (1) and being connected at its input side to the sensor elements (3), and the module (4) comprising at least one analog-digital converter for conversion of analog input signals into digital output signals.

2. A detector as claimed in claim 1, characterized in that the substrate (1) comprises amplifiers for amplifying the input signals of the integrated module (4).

3. A detector as claimed in claim 1, characterized in that the substrate (1) comprises multiplexers connected upstream of the integrated module (4) and/or connected downstream of the integrated module (4).

4. A detector as claimed in claim 1, characterized in that the integrated module (4) comprises at least one amplifier for amplifying the input signals and/or comprises at least one multiplexer.

5. A detector as claimed in claim 1, characterized in that the integrated module (4) is manufactured from crystalline silicon.

6. A detector as claimed in claim 1, characterized in that the array (2) of sensor elements (3) extends at three sides right up to the edge of the substrate (1).

7. A detector as claimed in claim 1, characterized in that the integrated module (4) is connected to the substrate (1) by flip-chip contacting, by wire-bonding or by mounting of packaged ICs on a wafer.

8. A detector as claimed in claim 1, characterized in that the substrate (1) comprises electronics of crystalline or amorphous silicon.

9. A detector as claimed in claim 1, characterized in that the sensor elements (3) are sensitive to X-radiation and/or visible light.

10. An imaging device, especially an X-ray apparatus, characterized by a detector as claimed in any one of claims 1 to 9.